

AGGT CGCAGGCGGGCGTGC GTGGAGCGGGGCCGCGCCGCAGAGATGTGACTCGGCCGAAGGC
 CAGCTGGAGCGTCGGCGCTCGCGGGCGCGGGGTCAATGTCGTGGCATCAGAGAGAAAGATGAGAGC
 TCACCAGGTGCTCACCTCCTCCTGCTCTCGT GATCACCTCGGTGGCCTCTGAAAACGCCAGCACATCC
 CGAGGCTGTGGGCTGGACCTCCTCCCTCAGTACGTGCCGTGCGACCTGGACGCCATCTGGGCATTG
 TGGTGGAGGCGGTGGCGGGGCGGGCGCCCTGATCACACTGCTCCTGATGCTCATCCTCCTGGTGC GGCT
 GCCCTCATCAAGGAGAAGGAGAAGAAGAGGCCCTGTGGGCCTCCACTTCTGTTCTCCTGGGACCCCTG
 GGCCTCTTGGGCTGACGTTGCCTTCATCATCCAGGAGGAGGACCATCTGCTCTGTCCGCGCTTCC
 TCTGGGCGTCCTTGCCTCTGCCGTGAGCCAGGCATGGCGCGTGC GGAGGCTGGT
 GCGGCATGGCACGGGCCCCCGCGGGCTGGCAGCTGGTGGGCCTGGCGCTGTGCCTGATGCTGGTCAAGTC
 ATCATCGCTGTGGAGTGGCTGGTGCCTACCGTGCCTGCGT GACACAAGGCCAGCCTGCCCTACGAGCCCA
 TGGACTTGTGATGCCCTCATCTACGACATGGTACTGCTTGTCACCCCTGGGCTGCCCTCTTAC
 TCTGTGCCGCAAGTCAAGAGGTGGAAGCTGAACGGGCCCTTCCCTCATCACAGCCTTCCCTGTG
 CTCATCTGGGTGGCCTGGATGACCATGTACCTCTCGGCAATGTCAAGCTGCAGCAGGGGATGCCGTGGA
 ACGACCCCACCTTGGCCATCACGCTGGCGCCAGCGGCTGGGTCTCGT GATCTTCCACGCCATCCCTGA
 GATCCACTGCACCCCTCTGCCAGCCCTGCAGGAGAACACGCCAACTACTTCGACACGTGCGAGCCCAGG
 ATGCGGGAGACGCCCTCGAGGAGGACGTG CAGCTGCCCGGGCTATATGGAGAACAGGCCCTCTCCA
 TGGATGAACACAATGCAGCTCCGAACAGCAGGATTCCCAACGGCAGCTGGGAAAAGACCCAGTGG
 CAGCTTGGGAAAAGACCCAGCGCTCCGTTAGAACGAAACGTGATCAGCCA ACTGAGATGCCGTG
 CTCAACGGTGGGACCATCCCAACTGCTCCGCAAGTCACACAGGAAGAACACCTTTGGTAAAGACTTTAA
 GTTCCAGAGAATCAGAATTCTCTTACCGATTG CCTCCCTGGCTGTCTTCTGAGGGAGAAATCGG
 TAACAGTTGCCGAACCAGGCCGCTCACAGCCAGGAATTGGAAATCTAGCCAAGGGGATTGCTGTA
 AATGTGAACACTGACGA ACTGAAAAGCTAACACCGACTGCCCGCCCTCCCTGCCACACACAGACAC
 GTAATACCAGCAACCTCAATCCCCGAAACTAAAGCAAGCTAATTGCAAATAGTATTAGGCTCACTG
 GAAAATGTGGCTGGGAAGACTGTTCATCCTCTGGGGTAGAACAGAACCAATTACAGCTGGTGGGCC
 AGACTGGTGTGGTTGGAGGTGGGGGCTCCACTCTTATCACCTCTCCCCAGCAAGTGC TGACCCAG
 GTAGCCTCTGGAGATGACCGTTGC GTGAGGACAAATGGGACTTTGCCACCGGCTTGCTGGTGGTT
 GCACATTCAGGGGGTCAGGAGAGTTAAGGAGGTTGGGGATTCCAAGGTGAGGCCAAACTGAAT
 CGTGGGGT GAGCTTTAGCCAGTAGAGGTGGAGGGACCCCTGGCATGTGCCAAGAACAGGCCCTCTGG
 TGATGAAGT GACCATCACATTGAAAGT GATCAACCAACTGTCCTCTATGGGCTCTGCTCTAATGT
 CTATGGTGAGAACACAGGCCCTTCCCTGTTAGAGCCATAGAAATATTCTGGCTTG GGGCAGCAG
 TCCCTTCTCCCTTGATCATCTGCCCTGTTCAACTTACGGGTGTATCTCAAATCCTCTCCAAATT
 TTATTCCCTTATTCAAGAGCTCAAATGGGTCTCCAGCTGAAAGGCCCTCCGGAGGCAGGTGG
 AAGGCAGGCACCACGGCAGGTTTCCCGCATGATGTCACCTAGCAGGGCTTCAGGGGTTCCCACTAGGAT
 GCAGAGATGACCTCTCGCTGCCACAAGCAGTGACACCTCGGGCTTCCGTTGCTATGGTAAAATT
 CCTGGATGGAATGGATCACATGAGGGTTCTGTTGCTTTGGAGGGTGTGGGGATATTGTTGGT
 TTTCTGCAAGGTTCCATGAAAACAGCCCTTTCAAGCCATTGTTCTGTCATGGTTCCATCTGTCT
 GAGCAAGTCATTCTTGTATTAGCATTGCAACATCTCGGCCATTCAAAGCCCCATGTTCTCTGCA
 CTGTTGGCCAGCATAACCTCTAGCATCGATTCAAAGCAGAGTTAACCTGACGGCATGGAATGTATAA
 ATGAGGGTGGGTCTGCAGATACTCTAAATCACTACATTGCTTTCTATAAAACTACCCATAAGCCT
 TTAACCTTAAAGAAAATGAAAAAGTTAGTGTGTTGGGGCCGGGGAGGACTGACCGCTTCATAAGCC
 AGTACGTCTGAGCTGAGTATGTTCAATAAACCTTTGATATTCTCAAAAAAAAAAAAAAAA
 (SEQ ID NO:1)

FIGURE 1A

MFVASERKMRAHQVLTFLLFVITSVASENASTSRGCGLDLPQYVSLCDLDIAIWGIVVEAVAG
AGALITLLLMLILLVRLPFIKEKEKKSPVGLHFLFLLGTLGLFGLTFAFIIQEDETICSVRRFL
WGVLFALCFSCLLSQAWRVRRLLVRHGTGPAGWQLVGLALCLMLVQVIIAVEWLVLTVLRDTRPA
CAYEPMDFVMALIYDMVLLVVTLGLALFTLCGKFKRWKLNGAFLLITAFLSVLIWVAWMTMYLF
GNVKLQQGDAWNDPTLAITLAASGWVFVIFHAIPEIHCTLLPALQENTPNYFDTSQPRMRETAF
EEDVQLPRAYMENKAFSMDEHNAALRTAGFPNGSLGKRPSGSLGKRPSAPFRSNVYQPTEMAVV
LNGGTIPTAPPSHTGRHLW (SEQ ID NO:2)

FIGURE 1B

underlined = deleted in targeting construct

bold = sequence flanking Neo insert in targeting construct

AGGTGCGAGGCGGGCGTGCCTGGAGCGGGGCCGCGGCCGCAGAGATGTGACTCG
 GGCGAAGGCCAGCTGGAGCGCTGGCGCTGGGGGCCGGGTCGAATGTCGTGGCA
 TCAGAGAGAAAGATGAGAGCTCACCAAGGTGCTCACCTTCCCTGCTCTCGTGATCC
 TCGGTGGCCTCTGAAAACGCCAGCACATCCCGAGGCTGTGGGCTGGACCTCCCTCAG
 TACGTGTCCCTGTGCACCTGGACGCCATCTGGGGCATTGTGGTGGAGGCGGTGGCCGGG
 GCGGGGCCCCTGATCACACTGCTCTGATGCTCATCCTCCTGGTGCGGCTGCCCTCATC
 AAGGAGAAGGAGAAGAAGAGCCCTGTGGGCTCCACTTCTGTTCTCTGGGACCCCTG
 GGCCCTTGGGCTGACTTGCCTTCATCATCCAGGAGGACGAGACCCATCTGCTCTGTC
 CGCCGCTTCCCTCTGGGGCTCTTGCGTCTGCTTCTCTGCTGCTGCCAGGCA
 TGGCGCTGGGGAGGGCTGGTGCGGGCATGGCACGGGCCGGGCTGGCAGCTGGGC
 CTGGGCTGTGCGTGCAGTCATCGCTGTGGAGGTGGCTGGCTCACC
 GTGCTGCGTACAAGGCCAGCCCTGCCACGGCCATGGACTTGTGATGGCCCTC
 ATCTACGACATGGTACTGCTGTGGTCACCCTGGGGCTCCCTCATCACAGCCCTCCTGTG
 AAGTTCAAAGGGTGGAAGGCTGAACGGGGCTCCCTCATCACAGCCCTCCTGTG
 CTCATCTGGGCTGGCTGGATGACCATGTACCTCTCGCAATGTCAAGCTGCAGAGGGG
 GATGCCTGGAAACGACCCACCTGGCCATCACGCTGGGGCCAGCGGGCTGGGCTTCGT
 ATCTCCACGCCCATCCCTGAGATCCACTCGCACCCCTCTGCCCAGCCCTGCAGGGAGAAACAC
 CCCAACTACTCGCACAGTCCGACGGCCAGGTGCGGGAAGACGGCCTTCGAGGGAGGGACGT
 CAGCTGCCCGGCCCTATATGGAGAAACAGCCTTCTCCATGGATGAACACAAATGCAGCT
 CTCCGAACAGCGAGGGTTCCCAGGCCAGCTGGGGAAAAAGACCCAGGTGGCAGCTGGGG
 AAAAGACCCAGCGCGCCTTAGAGACGTGTTATCAGCCACTAGGAATGGCGTCGTGT
 CTCAACGGGTGGACCCATCCCACTGCCCAAGTCAACCAGGAGACACCCTTGGGTGT
 AAGACTTTAAGTTCCAGAGAAATCAGAATTTCTTTACGGATTTGCCTCCCTGGGTGT
 TTTCTGGGGAGGGAGAAATCGTAACGTGGCCAACCAGGGCCCTACAGCCAGGGAAAT
 TGGAAATCCTAGCCAGGGGATTCGTTAATGTGAAAACGTACGAAAAGCTAA
 CACCGACGTGGCCCCCCCTCCCTGCCAACACACAGACGTTAATACAGACAACCCTCA
 ATCCCCGCAAACTAAGCAAAAGCTAATTGCAAATGTTATAGGGCTACGTGGAAATGTGG
 CTGGGAAGACGTTTTCATCCCTGGGGGTTAACGACCGTGGCTGCGTGGACAAATGGGACTTTGC
 AGACGTGGGTGGAGGGGTGGGGGTCCACCTTTACCCCTCCAGCCAGGTTTACAGCCAGGT
 TGGACCCAGGTAGCCCTTTGGAGATGACCGTGGCTGCGTGGAGACAAATGGGACTTTGC
 ACCGGCTGCCTGGGGTTGCACATTCCAGGGGGGGTCAGGAGAGGTTAAGGGGTGTGG
 GTGGATCCAAGGGTAGGGCCAAACGTGAATCGTTGGGTGAATGGCTACATGCACAT
 TTGGAAAGGTGATCACCTGTTTCCCTGTTAAGGGCCATGAAAATATTCGGCTTTGGGCAG
 AACACAGGGCCCCGCCCCTCCCTGTATCGACCCAGGGGTGGCTCCAGGTGTAC
 TCCCTCTCCCTGTATCGACCCCTGTCCACACTACGGGTGTATCTCCAAATCC
 TCTCCCATTTTATCCCTTTATTCCAAGAGGTCCAAATGGGTCTCCACGTGAAAAG
 CCCTCCGGGGAGGTGGAGGGCCAGGTGGCCAGGTGGCCAGGTGGCCAGGTGGCCAG
 TAGCGGGCCTTCGAGGGGTCCCACTAGGGATGTGAACGTACCTTCGTGCCTCAAGGC
 AGGTACACCTCGGGCCTTCCGTGTCATTGGATAAAGAAATCCCTGGATGGGAATGGATCA
 TGAGGGGTTTCTGTGTCTTTGGAGGGGTGGGGGAATTTGTTTGGTTCTGTGG
 GTTTCCATGAAAACAGCCCTTTCCAAAGCCATGTTTCTGTCAGTTTCCATCTGTCC
 GAGCAAGGTCATTCCTTGTTTAGCAATTCGGCCATTCAAAGCCCCATGT
 GTTTCTGTCAGTTTGGCCAGCATAACCTCATCAGGTCAAAAGCAAGGTTTAA
 TGACGGCCATGGGAATGTTAAAATGAGGGTGGGTCCTTCTGTCAGAATCTTAACCT
 TGCTTTCCTAAAAAACACCCCATAAGCCTTAAACCTAAAGAAAAATGAAAAAAGGT
 GTGTTTGGGGCCGGGGGAGGACGTACCCGTCCCATAAGCCAGGTACGTCTGAGTGT
 GTTTCAAAACCCTTGTGAATTTCTCAAAAAAAAAAAAAAAAAAA

FIGURE 2A

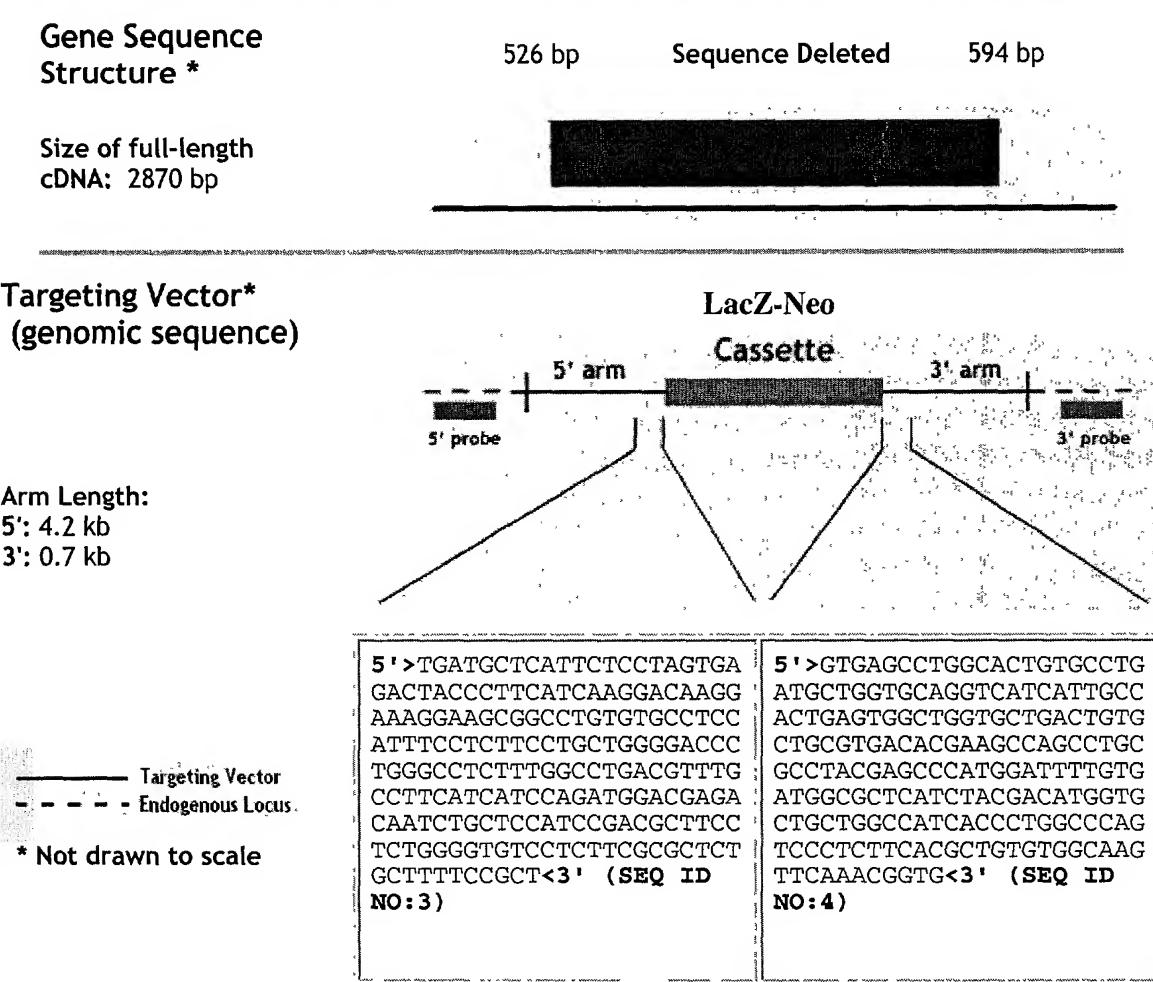


FIGURE 2B

Hot Plate Test

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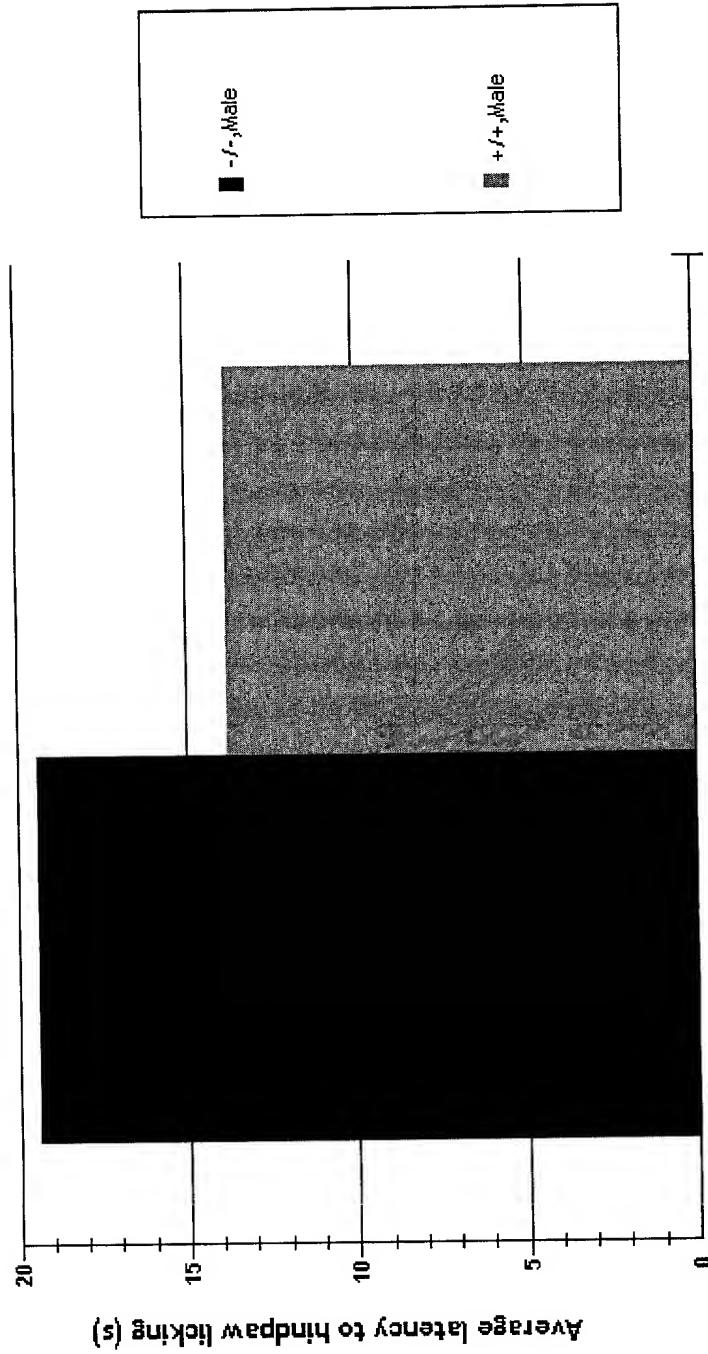


FIGURE 3